

U. S. Department of Agriculture.

FIELD DIARY

OF

Mr. Vernon Bailey

Chief Field Naturalist

(Official title.)

Biological Survey

1913

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James Wilson

Secretary of Agriculture.

8-833

Oct. 15, 1913

Left Washington at 6:45 pm on Penn. Ry. for Tucson Ariz. via Chicago, Kansas City & El Paso on R. I. & S. P. Ry's. To aid in getting good range of *Thurberia* & its cottonball weevil in Arizona.

Oct. 16 Arrived in Chicago 2 PM & left on R. I. at 9 PM.

Oct. 17 Reached Kansas City at 10:30 AM & at dark were in Kansas west of Pratt.

Oct. 18 Passed Santa Rosa, N. Mex. about 7 AM
Left El Paso 4 PM.
Reached Deming at dark.

Oct. 19 Arrived Tucson at
1:30 A.M. & went to Santa
Rita Hotel & slept till morning.

Got horse & buggy & drove 13 miles
to Picnic Ground in Sabino Canyon at
2800 feet. Left horse & followed up
Canyon to near fork at about 3500 feet,
then climbed to Ranger trail at 3800
feet and returned by it to horse.

Found no trace of *Thurberia* in
Canyon, but found it common in
3 spots from 3600 to 3800 feet
along trail on dry slopes.

2 ranges above Giant Cactus
in upper div. of Lower Sonoran zone
with *Dasylirion* & accompanying plants.

Found weeds infesting the lowest
bunch at 3600 feet. None in that
above. It may be Upper Sonoran
as a few oaks, junipers etc.
were found near it on cooler slopes.

Returned after dark, 9 P.M.

Oct. 20. Went to the University
& got Prof. Tharner to identify
my plants & got data on *Thurberia*
localities. Then went to Forest
Supervisors office & got information
on trails & canyons & horses.

Engaged saddle horse & got ready
for early start into Catalina Mts.

Oct. 21. Took saddle horse, blanket,
grub, gun, traps, camera & animal
and started up Sabino Canyon trail.
Reached lower end of Pine Creek
Canyon (3900 feet) at 5 PM & camped.
Came about 20 miles.

Reached lower edge of upper Sonoran
zone in canyon & on cold slopes.
Lower Sonoran reaches above on hot slopes,
probably 1000 feet.

Giant Cactus division, Lower Sonoran Zone

Giant cactus keeps out of bottoms.
First stand 2 miles S.E. of Ft. Lowell on
ridge 50 feet above creek flats, ^{at 2500 feet} then
after crossing Pinalito Cr. at Bullock's Ranch
it begins on first bench at 2500 feet
& is continuous ^{& abundant} up hot slopes of the
Santa Catalina Mts. to 4000 feet.

Other plants that go with it are -

Parkinsonia microphylla

Momisia pallida

Prosopis velutina, also lower

Cercus englemanni

Opuntia bigelovii

Echinocactus viridizini

Echinocereus engelmannii

Upper division, Lower Sonoran Zone

Hot slopes from 4000 to about
5000 feet are marked by *Dasyliion*
& either a mixture of lower & upper
plants or a subdivision of the zone.

It comes down to 3000 on cold slopes in
canyons. ~~which~~ Its plants are -

Dasyliion wheeleri

~~*Eugenia schottii*~~

~~*Yucca*~~ like little *Agave*

Vaquilina californica

Nolina wheeleri microcarpa

Acacia supratensis

Abutilon lemnii

" yellow

Thurberia therspesoides

~~*Phylloloba grandiflora*~~

Quercus oblongifolia in part.

Upper Sonoran zone

Begins at 5000 feet on SW.
or 4000 on NE + in gulches. +
runs up to about 7000 on SW.
or to 6000 on N.E.

Characterized by

Pinus embroides

Juniperus pachyphloea

Cupressus arizonica

Quercus emargini

.. *oblongifolia* - in peit

.. *reticulata* - " "

Arctostaphylos pungens

.. *pinghis*

Transition zone

Runs 7000 - 8200+ on SW + about
6000 to 8000 on N.E. slopes

Pinus ponderosa arizonica

Pinus chihuahuana

" *stroboformis*

Pseudotsuga

Robinea neomexicana

Quercus hypoleuca

" *submollis*

Prunus salicifolia

Ceanothus fuddleii

Berberis

Symphoricarpos

Canadian Zone

On N. slopes 8000 to 9000 feet

Populus tremuloides, com.

Abies concolor, com.

" *arizonica*, a few says Thumber

Thurberia thurberioides — Wild Cotton plant.

First seen in shade of high cliff on Sabino Canyon trail at 3500 feet, N. plant. Next 2 plants seen in side gulch 2 miles farther along trail at 2600 feet, N.E., then one a mile farther at same level + 6 a mile farther at 3800 feet. Then 5, 9, 4, 5, 1 in spots in the next mile 3700 feet on open slope to west in canyon with high west wall. Next seen when Pine Canyon trail turns up slope at 4300 to 4400 feet on open SW slope in patches in little side gulches. Plants counted in spots in sight of trail, 28, 12, 14, 6, 15, 3. all in a mile.

A mile further up at 5000 feet on W. slope counted 47 plants in open draw. These are with ^{blue} oaks, *Mangrove*, *Sotol*, *Vaquilina*, *Nolina* etc. - also *Quercus*. These were seen at 5100. near the first *Pinus embroides*. The last.

In Sabino Canyon *Thurberia* has a scattered range in side draws and over open slopes from 4000 to 5000 feet on SW slopes, and runs down to 3500 feet on a N.W. slope. About 154 plants were seen in following the trail 10 miles through its zone & the plant was easily recognized 6 or 7 rods on each side of trail.

It fills the upper divisions of Lower Sonoran zone, beginning where the Giant Cactus stops and reaching to the nut pines - *P. embroides*.

Its associate plants are -

- | | |
|-------------------------------|------------------------|
| <i>Oxytropis wheeleri</i> | (runs a little higher) |
| <i>Amorpha oblongifolia</i> | (" " ") |
| <i>Vaquilina californica</i> | (" " ") |
| <i>Acacia suffrutescens</i> | (" " ") |
| <i>Dodonaea argenteifolia</i> | |
| <i>Crassoma bigelovi</i> | |
| <i>Facoma stans</i> | over |

Brickellia californica
Abutilon Lemmonii
~
Sphyralcea grandiflora? ^{yellow.}

Euthamia flabelliformis
Asclepias linearis
Atriplex angustifolia
Agave rebottii (much higher to 6000)

Oct. 22 - Started up Mt. Lemmon trail and followed it from 7 AM to 5 PM. To near Ranger Cabin at 8200 feet, then returned a mile to Bear Willow cr. & camped for the night at 7820 in big yellow pine forest.

Made a bed of *Phoridium* by big log & kept fire all night & kept warm. Plenty of grass for horse. Water in pools along creek. Not raining much of the way.

Transition zone forest of big trees of yellow (arizana) & white pines & douglas spruce. Some oaks, a few aspens & *Robinea*

Oct. 23, Started down trail at 7 AM & hustled all day to 8 PM. at Tucson. It must be near 30 miles & with a load & small saddlehorn I could not travel fast. Got dark as I passed old Ft. Lowell. Came in very tired & lame & footsore and worn out. Had three hard days.

Oct. 24 - Went out to University & got Prof. Thorne to identify my plants & wrote notes & got ready for trip to Santa Rita early in morning. Dined with Swingle, McLaughlin & Cannon.

2
Oct. 25 started at 7:30 AM
in Ford Automobile for Santa
Rita Mts. Followed up broad
slope at NW base to Mc
Cleary's ranch in Stone Cabin
Canyon and started up canyon
from there on foot.

The ranch is 4000 feet. Went up
to mouth of canyon at 4400 feet
and hiked at spring at 5500.
Continued up slope to 6000 feet on
ridge and into canyon at 6500 feet.
Returned to ranch after dark.

Thurberia thurberiana is common
along the wash at McCleary's ^(4000 feet) and all
up above on stony slopes to 4400 on west
slope and to 4500 feet on an east slope
above Robinsons and in the mouth of the
canyon. It ranges with the blue oak
& Dasylirion up to Emery oak & junipers
and not above. Prefers steep slopes and
stony banks & edges of washes. over

Its associate plants are —

Quercus oblongifolia

Holmes

Saxifraga whulsi

Agave palmeri

Mimosa biinnata

(its lower edge)

Anisacanthus thurberi

Acaëra suffruticosa

" *greggi*

(just its upper edge)

Prosopis velutina

Krameria canescens,

Brickellia californica

Erothrina flabelliformis

In the washes it is often mixed with the set of wash plants with which it does not belong.

Oct. 24., Started early for ranch with Swingle & Freeman and followed up yesterday's trail into canyon, where we lunched at 6500 feet, then up to top of ridge at head of canyon at 8000 feet & up side slope to 8100.

Started down at 4:30 & got down to canyon at dark, then had to come slowly & reached the ranch at 9 P.M., very tired & lame & sore.

Saw 7 little white tail deer & considerable bear sign. Killed a spotted owl & a *Comipatus*.

Got good plant lists & game lives.

Found plenty of Cotton ball weevils in the bolls of *Thurberia*.

Prof. Thoreber came out and joined us in evening.

Its associate plants are —

Oct. 27 — Svingly & Trueman
+ Thorber went back to Tucson
in auto. I remained to do
some more collecting.

Skinned birds, wrote up notes
+ rested my sore feet & lame legs

Oct. 28 — Went up canyon and
shot birds among cotton plants
to learn if eating weevils.
Caught a few mammals.
Made up specimens

Oct. 29 — Shot a few more birds &
caught a few mammals.
Packed specimens to be weighed.
Drove to Moulas in P.M.
to take 7 P.M. train for Tucson.

Oct. 30, Took horse + baggage
+ drove to Zangua Verde & tried
to get into ~~the~~ Rincon Mts.
but could not get high enough
for cold catton.

~~Drove~~ through lots of
giant cactus and forests of
big mesquites.

Returned to Tuxtepec, packed
& took GPM train for
Oaxaca, arriving 9:45 PM.
Rained hard.

Nov. 1 - Tramped south to edge
of Bugeon Mts. & moved down gulch
west of station but found no trace
of *Thurberia*. This is too high
for it and not steep enough.

Lower & upper Sonoran met, with
a good trace of lower all across
the pass to the Wilcox Valley.

Country open & grassy with
lots of *Yucca radiosa*, and on cold
slopes *Yucca baccata* & *Sedottii*.

Some *Nolina* but mostly killed.

Lots of *Agave palmeri* but much of it
has been killed. Mesquite is mainly

Prosopis glandulosa, a few little *odonton*

The pass is so near the edge of
the two zones that a slight change
of slope throws the vegetation to upper
or lower Sonoran.

There has been no frost as yet & tomato
& melon vines are fresh & green &
fig & almond trees are still green.

Dry farming is a great success on a small scale as shown by Mr. F. A. Peake, who has this year raised good crops of corn, beans, squashes, sorghum, water melons, tomatoes, peppers, etc. and has fine growing trees of peach, apricot, almond, fig, apple, pomegranate & grape vines. The soil is very dense adobe with a sandy surface, & the only water is rather scarce & such extra amount as can be caught and carried over fields from slopes above.

There are no wells in town but fine drinking water is heated in barrels from a well at considerable distance.

Rabbits are abundant & eat many grain crops entirely.

Leaving Dragon we go out onto the great Salinas R. Valley plains with very little descent, and Lower Sonoran species all the way. To Cochise & Wilcox & thence over the low, open pass east to Bowie.

Bowie is in the bottom of the great San Simon Valley in pure Lower Sonoran. Just north of town we saw the first *Covillea* for today & it is abundant to Solomon. Also a full set of Lower Sonoran shrubs, *Mesquite*, *Acacia*, *Atriplex*, *Flourensia*, & lots of *Yucca radiosa* & *Opuntia sp.* Solomon is on the Pila in a well irrigated valley at 2979 feet altitude.

Nov. 2. Got a saddle horse and rode west about 15 miles to base of Graham Mts. and up a canyon to 4800 feet where the oaks and junipers begin. Found no trace of *Thurberia* although the soil & slope conditions were good for it and I passed entirely through its zone. Part of its associate plants were there, *Sotol*, *Amisacanthus*, but the blue oak, *Vachilenia*, and most of its associates were missing, and others have taken their places. The canyon runs east and west but has a steep hot south slope up to the oaks that is well suited to Wild cotton plants.

The Gila Valley has a wide flat bottom level area all irrigated and under cultivation. mostly in alfalfa with cottonwoods & willows along the ditches & roads.

It is rich land with heavy
adobe soil, generally over watered
and hard & cold. The better
soil of the side areas is not
used and the great mesas are
barren. The valley bottom
is cold and crops have been
killed by frost while at
Draepon, 4600 feet, there has
not been enough frost to kill
tomato plants.

The main valley vegetation
is *Baccharis viminea*, *Lycium*
Cottonwood & willows.

The side slopes of the valley
are dry and rather barren but
hot and pure lower Sonoran up
to about 4000 feet on cold and 5000
feet on hot slopes.

The plants are *Prosopis juliflora*
and its associates as follows:

Prosopis velutina
Acacia constricta
 " *greggi*
Covillea glutinosa
Fouquieria opulenta
Zizyphus
Cordala spathulata
Lycium berlandieri
 " *pulchrum*
 " *big.*
Atriplex polyacarpa
 " *arbuscula*
 " *like confertifolia*
Ephedra trifurca
Baccharis viminea
 " *arctroides*
Hymenoclea monogyra
Ridillia cooperi
Pisgahora corydophylla
Eriocaulon pauciflorum
Gutierrezia *big.*
Opuntia spinosior
 " *ingulmarum*
 " *big, beam of wood*
 " *purple, long spined*
 " *small, very spiny*
Echinocactus wislizeni
Cylindropuntia ingulmarum
Yucca radiosa
Chilopsis ovalis *- in arbores*

Gambel's & Seabird quail &
Desert sparrows, cactus wrens & audubons
are common birds.

Pyrocephalus is common along the valley.

Amorpha canescens *farther*
Dipodomys of several species. Jack
rabbits are common on the dry slopes

Ranunculus abortivus

Upper Sonoran zone begins at
4000 feet on NE slopes and at about
4500 SE. slopes of the Graham
Mts. but I only went to 4800 feet

It is characterized by the following

- Quercus emoryi*
- " *virginica*?
- " *wislizeni*
- Juglans major*?
- Platanus wrightii*
- Ailanthus*
- Morus microphylla*
- Vitis arizonica*
- Juniperus monosperma*
- " *proserpinacifolia*
- Rhamnus crocea*
- Sapindus*
- Rhus trilobata*
- " *waltii*
- Acacia biuncifera*

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Nov. 3, Wrote notes until the
train came at 4 P.M. &
then started for Globe.

Got dark before reaching
San Carlos, but was moonlight
so I got some idea of the country.
The Gila Valley is dry & barren
except where irrigated & the
irrigated part grows narrow west
of Pima. The Mts. are low on
both sides & very bare.

From San Carlos to Globe
is up dry washes and desert
slopes all the way and all
have Sonoran. There are no
mountains until near Globe where
a small range lies to the west.

Arrived at 8 P.M. &
went to the Dominion Hotel,
a fairly good place.

Nov. 4. Tramped west of Globe to foot of Pinal Mts., about 10 miles, Globe is 3500 feet & I went up to about 4400, but close to the mts. where yellow pines begins about 1000 feet above me on cold slopes.

At Globe it is all Lower Sonoran and on hot slopes up 1000 feet above. But Upper Sonoran begins on cold slopes only a little above Town, about 3600 feet in N.E. gulches. The town is just over the north side of the divide but for 8 or 10 miles west and as far or farther east the country is open ridges and gulches, not very steep or rough. Most of the ridges & gulches run east & west & have local south & northeast exposures. But where I went, on the east base of a range about 7000 feet high, a south slope does not get the full

Amount of sunshine it is entitled to. The auto. out off 1 or 2 hours of afternoon sunshine each day.

To the east of Globe I expect to find the zones ranging a little higher.

I found no traces of *Thurberia*, although cutting through its zone on good strong gulches that are favorable for it. *Sotol* is abundant and a little *Arisaema* was found. But many of the plants are different from its associates.

See note book for plants & range + birds seen.

Tomorrow I intend to work the opposite slope.

A clear cool day. There has not been much frost up here yet.

I saw beans in one gulch that had not been frosted.

Nov. 5, Followed down the road a mile ~~west~~ north of town and quarter of a mile past the big smelter and then turned up a rocky gulch to the east. Deep washes have cut down through old coarse red granite which is left in great boulders along the steep slopes. About 50 feet above the railroad I began to find *Thurberia* and for a mile or so up the ridge found plenty of it. Counted 95 bushes of it in going from 3500 to 3800 feet up this rough west slope.

Could see it equally abundant on the next ridge north of the deep gulch by using the field glass.

It grows where the rocks are so thick and rough that

Stock can not get at it.
and this seems to be generally
the case. It is often found
pathway of dry stock.

Many of the bushes were 8 to 10 feet
high and over an inch at the
base. I saved a lot of specimens
& some wood.

Could find no trace of weevils
and I examined all of the
bolls on a large number of
plants - enough to feel sure
there are no weevils here.

There are plenty of boll worms.

Four or five of the rough edges
offer suitable places for the plant.
but no other part of the country
that I have seen.

A lot of its associated
plants are with it here.

Also a few that are new to me,

and a great mixture of upper & lower
sonoran plants.

Those most evidently associated
with Thurberia are:—

Dasylirion wheeleri

Agave parryi

blue leaved bush,
spinescent bush.

Quercus engelmannii,

Mimosa biuncifera

" low, spinescent?

Berberis

red berried

Chrysantha loricaefolia

Brickellia californica

Lippia

Acacia suffruticosa

" *effusa*

2 bean vines

Dodonea angustifolia

Amisacanthus thurberi

Atriplex angustifolia

Opuntia

nearly spinescent.

A few Giant cactus grow on a steeper,
hotter slope across the gulch.

Also on more open & hotter slopes are

Pereskia microphylla,

Prosopis juliflora

Acacia greggii

Zizyphus

Fouquieria

Echinocactus wislizeni

Echinocactus wislizeni

Opuntia engelmannii var.

Cylindropuntia leptocaulis

" *versicolor*?

Agave palmieri.

Yucca elaeagnifolia

And on cold slope of the same ridge
are such upper Sonoran plants
as

Juniperus monosperma

Rhamnus crocea

Ceanothus cuneatus

Nolina microcarpa

Holboellanthus

Quercus engelmannii?

Celtis reticulata

Nov 4. Started for Phoenix
in a big old 6 cylindrs, 40 horseps.
Pierce Arrow Car that had
seen better days, and a
good driver. Got about
10 miles ed on a narrow
grade met a big truck at
the point of a sharp curve where
there was room for only one car.
Were about 40 feet apart when the two
cars came in view, so the drivers
divided the road & smashed inner
front wheels together. We had
the outside ed after smashing
the truck wheel to kindlings we
went half way over the bank
but stopped with the hind wheels
on the road. Jacked & blocked up
front of car & backed up. Fixed
front wheel but axle was too badly
hurt to continue so we ed through to
Globe. to start another day.

Nov. 7 - Started for Phoenix again.
& about 10 miles out a wheel rim came
off & tire blew up. This happened
3 times & we telephoned back for
another machine which did not
come till 3 PM. Then
continued to Phoenix,
arriving at 12 PM. It
got dark at Fish Creek
but a good moon threw
some light on the country.
The sun set as we passed
through Roosevelt. Got some
good notes for zone map.

Nov. 8 Remained at Phoenix
Got mail & went to fair to see
Gunn & W. Rogers & his grand
exhibit.

Nov. 9 Left noon & rugg. &
went straight north with
a pack of 100 lbs & about 5 miles.
In pack to salt river flats.
Left noon at base of mts. &
14.00 put & went up to top
of highest peak, 2400, not
back until 11.00.

Found 20 trees & 10 bushes in
a row & its a very fine
line of 10 trees & 10 bushes
to top of mts. north of
the river. many below the
Thurstonia belt.

It is a very fine line.

Spent the evening.

Nov. 10, went up to
G. V. Hewart, wrote up
pencil notes & covered
the maps

Nov. 11. Left Phoenix 8:15 AM.
for Winslow

All farms to Tempe & Mesa &
Higley. Then all creosote flats
to Queen City & beyond.

Close to base of Santan Mts.,
low & barren, not over 2000 feet
& all lower Sonoran.

The Sacaton beyond them are a little
higher but similar

Same country to Webster, then
as it gets rougher & drier at
end of Sacatan Mts. There is
abundance of giant cacti &
Cylindropuntia fulgida, *Olneya*
& *Palafoxia*, mesquite, cottonwood
& creosote

Florence, in Gila.

Narrow valley, rough banks - very bare
& hot - covered with giant cactus &
fulgida & bigelovii & Polivada & Olneya
etc - Baccaris vinosa & erethedus
& Nicotiana glauca along washes & rivs.
Big mesquite & catclaw.

Soon enters canyon, very rough &
picturesque, towers & black turkeys
& muds & pebbles & cliffs & caves.

Ray junction, high mts. to N.E.
Narrow valley, bare, lots of cactus,
B. spinosus was appeared.

To ~~the~~ Winkelman the same,
bare hot canyon, rough sides
but no mts. near.

Found there are no roads out
to San Carlos or anywhere &
nothing here for outfit, so returned
to Ray ^{on} on same train
& up to Ray on the little spur.

Arrived at Ray at 3 PM.
& started up mts. on north side
of town, climbed to 2000
to 3500 but did not reach the top
which seems to be a 1000 feet above.
Found no Thurberia. Got back
after dark.

Nov. 12 - Started early up
Mts. N.W. of town & climbed to
3800 feet near top of Teapot Mtn.
Then came down to 3000 & up
another peak west of town to 4000
at top & back to town.

Was out all day without
water & only a few nuts & some
peanut candy to eat.

Found no trace of *Thurberia*
tho in its zone & with
Dasylioris & many of its
closest associates.

Found some not very
old ship timbers

Nov. 13, Rained so wrote up notes & took train to Je. at 1 PM & back to Mesa.

Struck first Olney as we passed between N & S. buttes & came out of cañon onto plains.

Reached Mesa 5 P.M.

Telephoned Hudson of Exp. Sta. & he is coming to get me in the morning.

Nov. 14, Had a long talk with Hudson & found there was no objection in going to Escaton as the birds are too low for Thurberia & have been examined without showing it.

Swingle has not been heard from. So took stage to Phoenix & found Goldman skinning muskrats & coon.

Nov. 15, Took 7:45 A M Santa Fe
for Wickenburg, but found the mts.
There were too low for *Thurberia*, so
kept on to ~~to~~ Date Creek, but could
see no *Thurberia* if there was any
from train, so kept on to Prescott
& Ash Fork.

Lower Sonoran zone is solid
to Wickenburg, but Giant cactus
and its associates stop there
to reappear on both slopes at
Congress Junction. That is the last
patch of giant cactus - but Palo Verde
goes into Date Creek valley on
both slopes - Date

Date Creek Valley is straight
Lower Sonoran but upper division
with *Yucca radiosa* instead of
Giant cactus ^{& *Yucca*}. Lots of Mesquite
and *Acacia greggii* but Upper
Sonoran plants appear on N E slopes

Quercus engelmannii
Minosa binnajora
Nothing
Blue Oak

In the open & warm slopes
Lower Sonoran runs to Date Creek
and in dilute form to north end of
Date Creek Valley, where the lava
rock begins. There is then
but a trace of Lower Sonoran
until we reach Kiehl Valley
where it is strong again with
abundance of big Mesquite, *Acacia*
guggi, *Chilopsis*.
Then it mostly disappears
till we get into Skull Valley
where there are strong traces
again. This is the last of
Lower Sonoran.

From Skull Valley we go up
the grade to 6000 feet at the
summit where *Pinus ponderosa*,
Quercus engelmannii, *engelmii*,
oblongifolia? & *subnullis*? are
abundant.

Transition zone follows the
range to the top and down cold
slopes into the edge of
Prescott at 5500 feet.

Upper Sonoran also runs
over the pass on warm slopes

See note book for species &
zone pops colored at train.
All upper Sonoran to Del Rio
& beyond.

Cynanopus gymnotus, first seen
at Del Rio on Fred Harvey Dairy
Ranch, thence common
all the way to Ash Fork.

All upper Sonoran &
Ashfork, forests of Junipers
& white pines & *Abies concolor*
Left Ashfork at 6 P.M. ^{at}
dark & saw little of the country
en route to Flagstaff.
Stopped over at Flagstaff &
got a morning train on to
See the country east.
Stopped at Commercial Hotel.

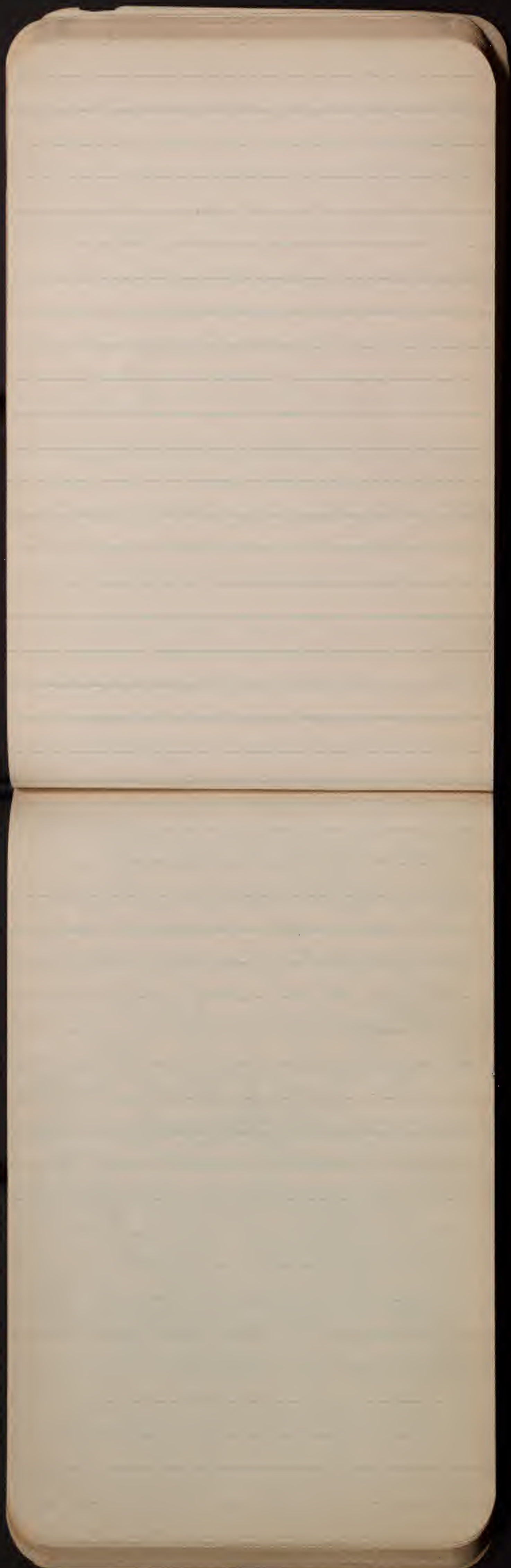
Nov. 16 Took 5:45 A.M.
train out of Flagstaff.

Raining & snowing and dark.
Did not get daylight till
we passed Canyon Diablo
or I lost my gun line

Stopped for breakfast at
Winslow at 7:15. Still raining.

No trace of Lower Sonoran
along little Colorado valley
from Winslow to Holbrook

The principal vegetation
is *Sarcobatus*, *Atriplex canescens*
& *confertifolia*, *Suaeda*
Chrysothamnus gracilis & other
species, wide leaved cottonwoods,
salt grass & *Sarcobatus*



McCleary, Aug. 27.

1250 Gambel Quail

1 "

2 "

3 Spotted Owl ♂

4 Ariz. W. p. ♂

5 Sp. Wren

6 Aphelocoma ♂

7 Cardinal ♀

8 Bridled Tit ♀

9

1260.

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Washington, D. C.

DISBURSING CLERK,

U. S. Department of Agriculture,

WASHINGTON, D. C.

8-333

Santa Catalina Mts. 7800 feet

9547, *Neotoma* ♂, Oct 23, 305, 135, 34,

Santa Rita Mts. MC Cleary, Oct 28

9548 *Neotoma albigula* ♀, 338, 144, 34

" 9 *Dipodomys deserticola* ♂ 335 190, 50

9550 " " ♂ 220 190, 50

" 1. *Spilogale* ♂ 410, 127 42

Oct - 29

9552 *Onychomys leucogaster* 138 45 21

9553, *Lepus alleni*, ♀ 660, 75, 145, ^{ear, notch} 200, 170

" 7, *Canis latrans* (at Moulton) skull only.

Skinner very dark + large.



